Eater of Souls

Miaraq

Foreword

"The greatest peril of life lies in the fact that human food consists entirely of souls. All the creatures that we kill and eat, all those that we have to strike down and destroy to make clothes for ourselves, have souls, souls that do not perish with the body and which must therefore be pacified lest they revenge themselves on us for taking away their bodies"

— Rasmussen

Our country carries secrets in its womb, that no man has any ideas of. We up here live two kinds of life, in the summer under the torch of the sun and in the winter under the scourge of the northern wind. But the cold and darkness is what makes us think. And when the great darkness covers the land many hidden things are revealed and then the thoughts of human beings go along pathless ways. (Berthelsen, Jakobsen)

The Great Darkness

"I have searched in the darkness, being silent in the great lonely stillness of the dark."

I was born on Nov. 6, 1977 in Bethel, Alaska. I was primarily raised in Nome and my whole life during the winter months the great darkness covers the land. As a child I loved being outside in the winter especially during snowstorms. I still love the darkness, the light of the full moon on the snow and fierce winter storms.

I have seen much in this life, and much more is in store for me. With my eye of darkness I see, I see the things that could have been, the things that were. With my eye of light, I see the things that are. I have been to the great darkness, lost my mind and come back. Reforming myself, pulling myself back together again. Through grief, I completely destabilized any foundations I had about how I understood the world.

I wake up and the first thing I see is the Alaska summer sun shining through the slats of the blinds lighting up the whole room, unable to be denied. I am on our big old bed, my babies a tangle of limbs around me. Many mornings I would wake up to this exact scene but with my wife and dog who was forever there, all sleeping. I would just lay there and watch them just existing beautifully. My Simple Rick's moment.

This morning my wife is who woke me up, telling me my phone was ringing. It was my mom

Son I'm sorry to tell you that your brother has died, he killed himself this morning.

I catch fire, my whole soul is on fire. I am so mad that my mom has to tell me this. I am so mad I have to tell my wife this. I am so mad I have to tell my kids this.

I am a raging sun, I burn and I burn as I drive to my parents house.

We get there, I hug and cry with my family all gathered in the living room and kitchen. Oh he was so loved, he was my baby brother. He looked up to me so much, and he was funny, he was so funny. Once we were on a fishing trip, and we had my friend and her daughter along with us, and the young girl was afraid, my brother said “don’t be scared, unless Warren gets scared then you can be scared”. On that trip he was carrying the 30-06 that he blew his head clean off with.

I couldn’t help myself, I was drawn to the room. I had to go in there. It was like the night sky when you are out past the city lights. His blood and brains forming the galaxy known as GUY. I couldn’t do it alone, I called for help and some good friends and family came and helped me clean that room out. Took us 3 days, I can still remember the smell. It was so sweet, it permeated my skin and clothing. Dripping down my arms, maybe that’s what did it, the contact. We laughed and joked in there, grim humor but we laughed nevertheless. I wonder if we sounded like crazy people in there. Sometimes laughter is the only thing that can dispel the darkness.

I found something, didn’t know what it was. I stared at it for a long time before I realized it was a piece of his skull, still fresh. I didn’t know what to do with it so I saved it, found a bunch more, and pieces of scalp with the hair still attached. I kept it all in a ziploc bag.

258 days

It's been a week since I finally threw a bag of skull chips and scalp pieces I couldn't bear to part with for some reason. I wanted them gone in some kind of ritual, burning them or laying them to rest in one of the rivers or creeks my brother liked to inhabit.

In the end bugs got inside and bred and all died inside the plastic bags it was contained it. I tossed it out unceremoniously with the rest of the garbage, because that is what it was after all.

I still think about it most mornings, and I go days without crying sometimes, but it is not that often. You'll remember its not just him I'm mourning, it is all kinds of loss. I still question that it really happened sometimes, or whether I even had a brother because its not like I don't know or remember everything it just seems like a nightmare when I think about it.

I said to my wife that it seems like I have all these memories that seem like nightmares, too much, sometimes it feels like my life is a nightmare.

Her response was 'it kinda is' and she walked off.

Kinda hit home.

What else am I supposed to do though?

258 days and it feels like a lifetime. I move into the future facing backwards, I see it all receding in front of me.

I remember everything I don't want to and forget everything I cherish!

I turned to science. I immersed myself in readings and lectures, read book after book. I needed a sense of stability, I found none. I found more questions than answers. On accident, I had completely unmoored myself.

I was drowning, but there was no water. I was burning, but there was no fire.

I was crushed flat, an atom thick. I was broken into a trillion pieces. I had no choice, I had to pull myself back together. Part of that was making sense of the world, I had no choice and so I did and this is how I did it. Maybe I am an insane person, one thing I learned from that experience is when you are crazy, you don't always know it.

Len says:

one steady pull more ought to do it.

He says the best way out is always through.

And I agree to that, or in so far

As that I can see no way out but through–

Leastways for me–and then they'll be convinced.

Culture, Paradigm, Incommensurability

Culture plays a large role in interpreting these things because your culture is the scheme of information you operate from. It contains all your basic assumptions about the world, and yourself and your role in all of this. Science has a culture that transcends national cultures in many ways, but there exist an acceptable scheme of information: an acceptable set of assumptions, acceptable set of values, ways of doing and ways of knowing within the larger scientific community.

I build upon the work of Kuhn in that what I refer to as culture can be understood as paradigm. The definition I use, from dictionary dot com:

"a framework containing the basic assumptions, ways of thinking, and methodology that are commonly accepted by members of a scientific community."

I would edit it by deleting scientific and understanding that methodology can be understood as "ways of doing". We all operate from what amounts to paradigms and Kuhn alludes to this many times during Structure itself and other writings. They limit their inquiry primarily to science but we can learn much from even this limited inquiry.

We also recognize that part and parcel of the human experience is that we each individually operate from internal paradigms that differ in important ways from every other human in existence, that has ever existed and will ever exist. Two people raised in the same neighborhood, same nation etc. will nevertheless differ in their experience of that same thing despite having very similar experiences, or at least as similar as two can have.

"You cannot communicate successfully about something that you have not yet identified"

Named universe, Taujijuan. This is perhaps the root of naming, something is named only after is it identified. Once it has identity, it can be named. I had a hard time with this because I had ideas, but I couldn't name them properly. In the early part of me trying to explain all this, I knew what I was trying to communicate but didn't know how to communicate it. I didn't know how to name certain things so I cast about looking for words

or concepts that encompassed what I was trying to communicate. It is no wonder that no one could understand me because when I go back and read my early ideas the only reason they make sense to me is because I was the one who wrote them, in retrospect I could see why no one could make sense of them. There is a part of me that is afraid I am not far enough in my process to explain them properly. I hope to succeed in this endeavor here, but one should read this all with an openness that radical skepticism will not allow. Some ideas cannot be understood from the outside, you have to see them from the inside. Accept them, attempt to see their truth from the inside. Suspend your disbelief, see the story as it is told and if you don't like it you can walk away from it the same as you could any fantasy. Let us not continue without defining what culture is, and then perhaps the claim I make about colonial culture clear. I borrow heavily from Thomas Kuhn and the concepts of paradigm (definition from dictionary.com)

a framework containing the basic assumptions, ways of thinking, and methodology that are commonly accepted by members of a scientific community. such a cognitive framework shared by members of any discipline or group: The company's business paradigm needs updating for a new generation.

Kuhn alludes to this multiple times in Structure, so we take the second definition and extend it. It is the framework you operate from, what are the basic assumptions you operate from?

We all have a framework we operate from, you would not be able to do much without these frameworks and we draw them from many sources. It is worthwhile to think about this, and try and probe the fundamental assumptions you operate from.

paradigm shifts

Your internal paradigm can and does change, can you think of times you learned something that shifted your entire worldview? Information that challenged your base assumptions about the world? When this happens it has cascading effects throughout your entire internal system. It can be quite unsettling. We need a stable system to operate from, and anything that challenges or destabilizes this can actually be quite dangerous as I learned.

There are what he calls "cracks in the paradigm" and these are when it becomes clear that the basic assumptions we operate from are not quite working. He uses examples from science, and I think these can be instructive. For astronomy, the shift from geocentrism (the earth is the center of the universe) to heliocentrism (the sun is the center of our solar system) had huge effects on astronomy. The old assumption is at least sympathetic, it certainly looks like the sun is going around the earth doesn't it? But that assumption was yielding data that didn't make sense with what was known about physics even then, planetary cycles acted very strangely and only when that basic assumption was abandoned only then did things begin to fall in place.

Incommensurability

When things are incommensurable, it means there is “no common measure”. Like someone arguing with another that something is 12 units, while another says “no there is clearly 30.48 units here”. They are both correct once we understand one is using inches, and the other centimeters. This contributes to much misunderstanding between people since we can’t access each others basic assumptions unless we make them clear and explicit. There is a degree to which the various arguments I make are incommensurable with the accepted understanding of the world we find ourselves in. One very important one would be free will, if you do not believe we have free will then our views and ideas are going to be incommensurable to a certain degree since one of the most basic assumptions I operate from is that free will exists.

Language, Echodefinition, I/UI

Many things are constructed, language is one of them. We sing to each other in the darkness, this is how I communicate with you and words point to things, but are not the things themselves. We name things, and come to an agreement on the meanings of words and through this construct communication is possible. I call it echodefinition, similar to echolocating. We echodefine concepts with one another. See this? It is an orange, we come to an agreement that this is the thing and this is what we call it. Because we can’t access each other we need to create constructs that allow for communication through this darkness. This allows for rapid communication since if we speak the same language then we have predefined many things and don’t need to spend time defining each thing we just refer to it.

The frameworks we operate from, our metanarratives, languages form something like a User Interface, but the interface is not the fundamental thing,

Modern science is physicalist, or materialist and this flavors all interpretation. I may write about this more at some future date but the first and primary dogma of empiricism is “only that which can be observed can be said to exist” and this excludes any possible phenomena that either cannot be observed, or cannot currently be observed. Think to the past, before we could observe many of the things we can now observe with our modern tools, there are those who theorized atoms and such but it could not be confirmed until much later - did they exist before they were observed?

Some philosophical ideas are interesting, but in the end don’t bear much fruit. This is fine, philosophy is so much more than science. Furthermore, properly understood science does not purport to be philosophy and it could and should not pretend to be anything more than what it is. Science has a much narrower scope, while philosophy has a potentially infinite domain I think.

"Never bar the path of inquiry" this was an American philosopher named Peirce, and this maxim has to be one of the more important maxims in philosophy. Empiricism, positivism bar the path of inquiry. Limiting inquiry can still be quite useful but the limits of philosophy are broader. Nicholas Rescher wrote a book on metaphilosophy and in it he lays out some of the rough framework for philosophical thought, but its not and can't be dogmatic. Rescher expands on Peirce’s maxim further in "Philosophical Dialectics".

"Never adopt a methodological stance that would systematically prevent the discovery of something that could turn out to be true".

Radical skepticism, and Nihilism are examples. With radical skepticism we are beginning from a closed place, one is not open to possibility and because of this it violates the first maxim. Nihilism similarly begins from a stance of negation, and the central tenet of it destroys anything one tries to build within the system. There can be no ethics etc. Nietsczhe tried and failed to build a system, because even a joyous nihilism is still at its root a negation of all meaning. If it all means nothing, then it all means nothing. Anything you can try and build is meaningless, and nothing meaningful can then be built within the system. Many people in the modern world are nihilists of one form or another, and this is by definition an unstable base from which to build.

Empiricism suffers from the same. Limiting inquiry to only that which can be measured or observed doesn't actually make it a bad thing, sometimes you have to limit or its completely appropriate to limit certain kinds of inquiry - especially when limiting your inquiry in the way science does yields fruit, but this doesn't preclude things that can't be measured, or that there are actually "things" that can't be measured or observed. We can infer existence of a lot of things already so I think even physics has surpassed physicalism in the most naive sense, but even these things can't be claimed to be the edges of existence since the limits of our understanding are unknown.

The first and primary dogma of empiricism is that only that which can be measured or observed can be meaningfully said to exist. To which we reply “never bar the path of inquiry”.

There are probative principles of rational cogency, principles of rational economy like these:

Never explain what is obscure by something yet more so.

I attempt to explain myself plainly here. I do not retreat into obscurity or into language that is only accessible by those who are indoctrinated and immersed within the languages that are only understandable by those who are educated in those languages.

Entities are not to be multiplied beyond necessity which is "occams razor"

-do not posit a plurality where a single item suffices

-it is inappropriate to do with more what can be done just as well with fewer

even in normal decision making, if you apply the razor it would be like assuming the narrative that requires the fewest assumptions, or working parts. This is then the most likely answer in absence of any other information. We will see this come into play with the explanation for time.

well there's a lot, and not all of it I even agree with but the kind of flexibility needed in any philosophical exercise requires structure that can morph and change but still maintain its general integrity. "never bar the path of inquiry" doesn't mean you accept everything, just that you consider it.

before science was science it was natural philosophy, and its core it is really just a philosophical offshoot - why do we do science? for money? for fame? or for understanding? science can stand on its own merits, and it can withstand a lot of scrutiny. it doesn't need fanboys, or adherents and the very nature of science i think bars the kind of scientism that is generally displayed within the various disicplines.

In "What is Philosophy?" a series of lectures by Spanish philosopher Jose Ortega Y Gasset I think he properly understands and explains the nature of philosophy very well. In the end it is an exercise that originates with life. Probably more people are philosophers than identify as such, although we all do it with varying degrees of success and rigor but that does not change the nature of what we do. Based on that, I think it is appropriate to begin by attempting to carve reality at its joints beginning with how to understand yourself and a little of our relationship with the universe we find ourselves in.

"Learning is the gate to attainment of the Way. Therefore learning is the gate, not the house. When you see the gate, do not think it is the house. You have to go through the gate to get to the house, which is inside, behind it." -Yagyu Munenori, idk which translation

The Soul

"…it is worth recalling that within traditional Athabaskan culture the natural world is suffused with Spirit. Spirit is not something distinct from the ordinary world but the very foundation for it." -from the preface to the Gospel According to Peter John.

"*The Yup'ik word for spirit is iinruq, the Yup'ik believed that all things animate and inanimate, had iinruq. Iinruq was the essence, soul, of the object or being. Hence a caribou was a caribou only because it possessed a caribou iinruq, a caribou spirit.*

-Yuuyaraq, The Way of the Human Being.

Indigenous claims about the soul are not religious claims, they are ontological claims. Nor would it deny any of the claims physics makes, since the physical world was known and accepted. The physical world is part of the entire universe, but it is only one part and it emerges from the spiritual universe. All physical things have a soul, but not all souls are physical. We will not dive too deep, partly because my own understanding of it is incomplete, but I hope to convince you that these claims are legitimate.

Why begin with the soul? It is the natural center to understand yourself because it is the only thing unchanging within you even as your body and mind undergo changes.

When you think back to different points in your life, as your mind and body change there is something unchanging. It's you, it's always been you. Your body changes, and the mind change but you remain. There is an irreducible element to yourself, an atomism of the soul.

I know what it's like to be me. I don't know what it's like to be you, our experiences shape our view of the world. I don't have direct access to that experience, I don't know what it's like. There is no one in the world like you, never has been, never will be. There are a lot of souls in this world, but you are unique in the time and place you came into the world and

no one has ever had your particularly experiences.

Even people living in the same house have a much different experience of reality. Yet it would seem strange to deny this experience itself, of being, of having awareness. We can recognize it in each other through a variety of ways including written language, as we are doing now. I don't know what it's like to be you, but I have some idea as you also have a basic awareness that I can interact with and get to know a little from your experience what it's like. There is an irreducible element in it for me. I am 45 years old at the time of this writing, and all I can remember is me. My body changed, my environments have changed, my social circle has changed and my mind has changed all throughout my life but it was always me.

You know what a soul is, because you are one. You know what it's like to be you, and unless the way I experience the world is wildy different, then you have some idea what its like to be me.

I can only indirectly observe it in you but I know it is there same as it is for me. So we have something we can all observe in ourselves. We can only infer it in others, but its a pretty strong inference given all the mediums we communicate it in: song, poetry, writing, dance, theater. I don't know how you could even attempt to quantify any of this in any meaningful way, but nor can I think of any way to meaningfully deny it. The world is full of souls, and souls with wills that are sometimes in alignment and sometimes at odds with mine.

We can observe it directly in ourselves, but we can only infer it in others. Do we supposed that other entities might have souls we can't observe? It is easy for us to infer it in each other because even though we have very different experiences, we are not that different.

What is it like to be a worm? Would you still love me if I was a worm? We can't know that, we can know all sorts of facts about worms, we sequenced the entire genome of C elegans and we can understand it's behaviors, why it does what it does but we can't know what it's like to be a worm.

Easter morning.

The kids are done finding the eggs and the baskets and sitting at the table I asked my kids

Do you know what it's like to be a worm?

Yeah, they swim through the earth.

In that moment, I was so proud. He understood something fundamental. They swim through the earth.

What is this thing, the remainder? This is what I think is the *inua*, *yua* your spirit. Your body is part of you, but not the whole. The body changes and in some non-trivial way the body you inhabit now is not the one you came into the world with. The body is no small thing,

and it is one of the most immediate and "solid" things we experience and it is in this physical world that we shape and bring our ideas into existence. Look around you, see all that we have built and all the infrastructure that goes into supporting it and even this medium I communicate to you in now was built in part with our body and through the body we express ourselves in this world.

What is the spirit? I'm not sure, it is hard to pin down. I know I am/observe it, and the thing that I am/observe both occupies and operates within the world. Perhaps it is something that is not easy to capture with words. I shape the world quite literally with my will, my body the vehicle for some of this expression. I bring forth ideas, I can shape the world to fit many of my needs. I am not special in this regard, the proof is famously in the pudding and look around you right now, see the way in which we shape and move in the world and who or what does it like *we* do?

Probably why even though I can't directly observe it in you, I know you also occupy a similar space. I can infer it quite strongly in you, and directly observe it in myself yet it escapes easy definition, though we all experience it. I do think some experience it more strongly than others and my soft spot for the arts. It is some kind of divine expression, and I completely reject mundane views of this experience because imagine if every single human on earth had a superpower, it would be mundane. Whatever it was if we all had it, then it would be mundane now matter how super the power. Here we are, and we all shape this universe like smol gods, in ways no other beings we know shape and move in this world. We dance.

So much would end up being spirit based as well because the concept of ontology itself is predicated upon the souls themselves being the thing that creates conceptual frameworks, so in *the order* the soul would be the thing creating and imagining these things. The soul is the author of all philosophy, all poetry and music, all art and every other human construct is authored by the soul.

Y Gassett roots philosophy in life itself, I agree but it begs the question: what is life? I think it is more appropriate to say all of philosophy is rooted in and is an exercise of the soul. What is the thing that wonders? The thing that creates frameworks and tools for understanding?

A spirit based ontology has ethical implications as well, If one were to take seriously the idea that all things have a spirit, or consciousness then our relationship with the entire universe we find ourselves in changes. I think in this larger spiritual universe we also understand ourselves differently and our relationship with it as well. In recent times the Maori have made progress on this front, giving mountains and rivers legal personhood, this approach could be one of the many solutions needed to move us forward as humanity. Just as we abandoned geocentrism, we need to abandon anthropocentrism.

This spiritual universe has a big tent aspect that appeals to me in that there is this belief and many like it in Indigenous worldviews across the globe. The quote I use in the beginning from the Gospel According the Peter John lays out how much of our traditional worldviews were already in alignment with a lot of the values espoused by the bible. I think

this is also not something to be underestimated, and not something we can ignore as many of our communities are Christian, and there is alignment between the worldviews.

I think we've reasonably established what I'm referring to as a possible location of the inua, or soul. What is this thing? What are we? I think this is a good place to begin an inquiry into the nature of reality, and we for the most part have the necessary equipment to inquire into this as we are all souls. We move and shape this world, and we are unique souls within whatever categories of souls exist. What sort of soul does a rock hold?

"Everything on earth has a spirit. They call it K'etniyi, means 'it's saying something' that's how we believed long ago. We believed that everything had a spirit and should be treated with respect. From a rock, water, mountains, animals, everything. This is what's missing today."
-Nick Carltikoff, Sr.

We can hardly even understand one other, as fellow human souls. It is something done with great difficulty. I will never see the world through your eyes, never understand the world the same as you do. If we take this into consideration, how hard is it to understand other entities who also have souls that are very unlike us. We don't know what its like to be a worm, but we can understand that things may well experience the universe but not like us. Things do communicate, constantly.

We will use salmon as an example: in Alaska our salmon are returning in smaller numbers, smaller sizes. Through this they tell us something, something is being communicated. It is up to us to be able to interpret what is being said, and then translate it into something we can understand.

How can we understand a rock? What does it tell us? If one has enough knowledge of geology and other disciplines it can tell you quite a bit. How and where it was formed, when it was formed. A rounded rock can tell you that it spent time in a river etc. So then all things communicate, but perhaps not in a way we can understand.

A strong spirit, the upholder of the universe, of the weather, in fact all life on earth - so mighty that his speech to man comes not through ordinary words, but through storms, snowfall, rain showers, the tempests of the sea, through all the forces that man fears, or through sunshine, calm seas, or small, innocent, playing children who understand nothing.

When times are good, Sila has nothing to say to mankind. He has disappeared into his infinite nothingness and remains away as long as people do not abuse life but have respect for their daily food.

No one has ever seen Sila. His place of sojourn is so mysterious that he is with us and infinitely far away at the same time.
-Najagneq

Things communicate, but they do not communicate in the same way we do. Sila speaks with the weather, can we understand them?

The best tools we have for understanding the universe are in us. Everything we build to understand are things we built for ourselves. The LHC, the James Webb telescope exists because we wanted to know more, we want truth, we want understanding. Everything we need to understand it is within us. What is we? What is the thing that wants to understand?

I finally remembered what I had been forgetting, that I am a breathing thing. Bellowing in and out fueling the inner furnace.

I consume souls at a terrifying rate.

A soul based ontology has many implications, and it does and will have implications for how we conceptualize ourselves and our relationship with our environment. Even if one doesn't accept the underlying worldview and logic it still is a very pragmatic worldview. In the end our people don't need anyone to accept it, this forms the basis of our worldview and should inform the development of our laws and nations, and it does. If land and water are managed according to Indigenous views and values there are implications for what this means. Land is not a resource to be managed, but a fellow soul that we live in close relationship with, and depend on for our very existence.

Can we lay claim to jurisdiction over the spirit of the land as stewards and guardians. Paper documents mean very little here, who can speak for the land? Who has the authority to speak for such an entity? It speaks for itself, but not in a language recognized in modern human affairs. So then our task is again, to interpret and translate what is being communicated to us.

We put things out of balance, we don't respect our food and Sila awakens.

Many species are protected and have status under law, do they have sovereignty in this scheme? and who is managing them and why? Who can lay claim to being the voice for these populations? This ends up being the basis for our claims to the land that supersedes all other jurisdiction as spirit is not separate from the land, but the very foundation for it.

The soul in relation to other souls

If it is "souls all the way down" then how can we conceptualize ourselves as souls in relation to other souls? Obviously in this scheme all souls are not the same, I think we can sketch out some broad distinctions between types of souls, but if it makes one feel more comfortable to think about this in platonist terms I think it works almost as well.

I hope I have sketched out a convincing enough argument for some kind of platonism and instead of thinking of some universe composed of math, you can think about it as a "world" or a more fundamental description of "nature" than a strictly physical one. This is not very different, and maybe even talking about the same thing. Everything has a soul, and souls are empirical and non-empirical entities. From this we draw the conclusion that whatever a soul is, can be both physically observable, or not physically observable at all. The first and

primary dogma of empiricism is something like “only that which can be observed can be said to be real” and the wrongheadedness of this cannot be overstated. We cannot rule out non-empirical entities, there may be parts of the universe that are not accessible through physical means, and we seem to already have many things that fit into what I would classify as non-empirical entities.

Can we can say a white raven exists if we or anyone alive had never actually seen one? We have a white raven in my city right now. We have a great number of examples of entities that existed before we were capable of observing them, yet they existed.

All physical things have a soul, not all souls are physical. Are numbers empirical? We can see them expressed all over the world we find ourselves in. Consider 5 oranges, we can “see” the number 5 expressed here, but is it empirical in the sense that the oranges are?

Lets go back to being able to observe one’s own self, and the fact that I cannot even observe what it’s like to be you, I only know what it is like to be me. I can infer that you are having a roughly similar existence, we are more same than different in the grand scheme of things. I cannot observe it in my dog, but I can infer it and in many ways me and my dog are more same than different in the grand scheme of souls. We both breathe, we both burn, we both consume souls.

D. Being and Belonging

Eskimos possess a rather complex view of what man is. A person's life is spoken of as his inuusiq. It is the composite result of the synthesis of a number of parts in a single life. One of those parts is timi ="body". It is through the body that inuusiq finds expression. Another part is anirniq = "breath". Without it no man lives and with it he relates to everything that exists in the air. Still another part is called the tarniq. This word has been variously translated "shadow", "soul" and "inner person". The base is ta(q)- from which the terms for dark, fog, shadow, and a kind of fear are derived.

The atiq is the remaining part of inuusiq which is crucial to the Eskimo concept of man. Atiq means "name". Every man has at least one and quite often several. Spencer (1959, 286-290) has described naming behaviors among the North Alaskans. What he says obtains among Norton Sound groups as well. By means of names, an Eskimo has access to the universe of things that have been named: taijaujan = "the named things". Empirical and non-empirical entities have names. Animate and inanimate things have names. Human and non-human beings have names. In fact, these dichotomies are not definiti of the Eskimo view of things. The crucial dyad is between named and unnamed things. Men have names and the nuna has names. Man and land are related.

How to understand yourself.

Why is this important? The underlying want to understand is rooted in being, we want to understand, but what is it that wants to understand? We find ourselves in this world, like the kids in the Maze Runner with no understanding of how or why we got here. All

philosophy is rooted in this, and so we begin here. This is not meant as an absolute understanding of who and what we are.

Scientific materialism falls short of being able to explain who we are, the physicalist view, and the one that seems to be a very common view in the modern age is that you can be explained in purely physical terms. According to this view, what ***you*** are is an emergent feature of lower level processes. Can we truly be explained by the interactions between neurons? Are we simply our bodies? Our brains? There are those who view "the hard problem" as a non-issue, and if one begins with physicalist assumptions it may not seem to be a hard problem but it truly is. What is the thing peering out at this page? I'm aware of you, I write this fully aware that if a soul be reading these words then I struggle to understand what is happening in purely scientific materialist terms.

As far as I understand it my people conceptualized themselves as a pluralism. One whole, but divided into a few parts. *Yua*, *Inua*, spirit whatever we wanna call it is the core of who we are. Think back as far back as you can remember, who was that? What was that peering out into the world? As you grow and change the core of who you are remains. It was always you. Sometimes people will object and say there were times where they were not themselves, or didn't feel like themselves but who or what was not themselves? Who didn't feel like themselves? It was always you. There is always a core that maintains itself despite all the changes that occur throughout your life. This is your essence, your spirit. We do not need to be able to define this, it just is, you just are, no further justification needed.

Your body is an important part of you, but isn't what defines you. The body you entered the world with is in some non-trivial way, not the body you occupy now. Our body grows and changes throughout your entire life and it is your "vehicle for expression" in this world but it is not you. There are of course parts of your body that without them you would stop existing - at least physically but if one loses a limb, no meaningful part of you goes with it. Your body can, and often flavors your experience in this world but it is not what defines you. It is one part of a whole.

Your mind is another part of yourself and is something that is co-created between you and your environment. It is the scheme of information you operate from. We later define culture in a very similar way but I hope it is obvious how these are related as that scheme of information you operate from isn't formed outside of your environment, and this environment includes your own experiences, but also the information you get from people around you as well as the physical environment you are formed in. Your mind is mutable, it changes throughout your life and we often go through paradigm shifts that change how we understand ourselves and the entire world. You are not your mind, although again it is part of you and an important part but you are not defined by your thoughts.

This is not comprehensive, there is a lot I still don't know but these are the parts that make the most sense to me so far. I believe the mind related to the named universe described by our ancestors as it seems my mind consists of things that can be named, and the relationships between them which can also be named.

Other than yourself, there is no better case study for human development than your own

children. Probably the only way for you to gain understanding of another is by understanding yourself. After all, when do you ever get to experience anything other than being you?

Yet, we spend the first part of our life almost completely unaware of ourselves. My memories don't begin until much later. I have cassette recordings of myself as a baby, listening to my step-dad doting and loving on me and my little baby laugh that I have no recollection of. When I ellanguq there was too much new information to process so I was aware, but on a different tier than I am now. So, I watch my sons. My sons who are very much like me, to learn about myself.

This distinction between named and unnamed things, and the named and unnamed universe is a thing that I don't fully understand but names are an important part of who you are and we all hold many names. We often have our Christian names - of which I have three. Nicknames of which I have many, and my Yup'ik name which is my original name and the only name I was formally given at my birth. I wasn't given a Christian name until later for a few reasons and my name Miaraq is the name I identify with the most.

One of the practical outcome of this worldview is this, you are not defined by your body nor your actions. You are and should be held accountable for your actions, but they do not define you. Which also means you are not your job, nor anything that you do in this world but instead are something more fundamental than these. Similarly, you are not your mind which means you are not your thoughts.

These views are meant to be practical ways of understanding yourself, but the primary point we should take from this is that you exist, and you exist meaningfully. You are more than just atoms and molecules moving around, and that clearly we exist in a way that many other things do not. We exist, and we exert our will upon this world that we find ourselves in. Take a look around yourself and see all that we have built, look at the way we have shaped our environment and do not for one second buy into any worldview that seeks to diminish your existence. We exist, and we are part and parcel of the universe we seek to understand. Not only do we exist, but we have free will.

the self, the "joints" - physical, mental (epistemology, echodefinition, language), spirit, names, the named universe.

How do we understand ourselves? What is the meta-narrative that described the way you understand the world, yourself and the world we inhabit? There are assumptions we all operate from and there is a level of incommensurability with the Western view and the way I understand the view of my people. The spiritual universe is no new age fiction, this is the way people who were deeply connected with the physical, and by extension with the spiritual world. This is also one of the reasons I am extremely sympathetic to mathematical platonism, in that this worldview describe a more fundamental description than a mere physical one.

I think its important to point out that the worldview I am describing is not one which would deny the standard model as an example. Whatever physical laws exist would be part of this

worldview as the physical world and all its laws are implicit, yet the most fundamental, or a more fundamental world is the spiritual one. Spirits, souls are both empirical and non empirical in that I can only get a glimpse into your world, reader. This is my attempt at a glimpse into mine, and what I think is the proper way to understand our selves and a better way of understanding your relationship to the universe we find ourselves in. We have a much deeper understanding of the physical world but this has led to what I think is a crisis, which interpretations of the various theories is correct? Do we live in the many worlds/multiverse popularized by Rick and Morty and Marvel?

What is our modern culture? I come from a culture that is well defined, comprehensive. It tells you how to understand yourself, how to understand your relationship to your community and the environment you inhabit. American culture from this perspective seems very shallow in many respects and at its very worst is rooted in lies about itself, its history. Colonial culture in general is rooted in a few things, theft, exploitation and violence. Modern American culture is still rooted in many of these same values, and this is at the core of some kind of national identity crisis at play right now in this country.

Foundations of Mathematics

What we will attempt in this section is a strong argument for math being discovered rather than invented, and a weaker argument for mathematical platonism. This section was primarily for my own interest but ends up strengthening the argument for what amounts to a more robust platonism that aligns this spirit based view I am a proponent of. If we can speak of a non empirical mathematical reality that underpins this one, then this aligns with many of the claims about the spiritual universe, such as, it consist of empirical and non empirical entities both.

"*Platonism about mathematics (or mathematical platonism) is the metaphysical view that there are abstract mathematical objects whose existence is independent of us and our language, thought, and practices. Just as electrons and planets exist independently of us, so do numbers and sets.*[1]"

In 1960 Eugene Wigner, a theoretical physicist wrote a book called "The Unreasonable Effectiveness of Mathematics in the Natural Sciences" in which he works with the idea that "mathematical concepts have applicability far beyond the context in which they were originally developed." This position is reinforced by math showing us the way forward with such instances as Maxwell's equations, or by the discovery of "complex numbers," discovered hundreds of years ago with no apparent use other than in math, and now are known to be necessary for calculating quantum mechanics[2]. When complex numbers were

[1] https://plato.stanford.edu/entries/platonism-mathematics/

[2] Ruling Out Real-Valued Standard Formalism of Quantum Theory

discovered quantum mechanics wouldn't be known for a long time. Math teaches and shows us relationships we didn't know existed.

Math could be explained as a human construct. Invented not discovered. Still its ubiquity across cultures, arising independently and taking different forms across very culture I'm aware of gives one pause. All these cultures contain the root concepts and building blocks of modern math, every one of them. Math's unique ability to teach us things, and sometimes teach us things long before we understand how to parse what it is telling us, points to discovery, not invention. The consequences of following the basic logic lead to new knowledge.

We begin with an acknowledgement that math as currently conceived might not be the final paradigm. Still, the unreasonable effectiveness cannot be ignored. So we assume math is correct, addition works as it does etc. We will try not to presume too much.

We give a short history and geneaology of math, and then demonstrate a self consistent basis to math. It seems underwhelming but we can derive positive and negative infinities of different sizes, understand the basis for operators and from there secure a basis for fractions, roots, powers, imaginary and transcendental numbers all from the (), +, -, and =.

I am sympathetic to mathematical Platonism. I used to believe math was constructed, and I still do to some degree. I'm not certain the math I'm going to describe maps perfectly onto reality but all constructions are interpretations based on reality, therefore not constructed from whole cloth. The more I learned about the history of math, and trying to understand it for myself the more it seems as though it maps reality in ways other things do not.

My son came home from school and asked me "dad why is a negative times a negative, positive?" and I didn't know the answer but was confident the answer was a google away. The answers I found were ok, they helped conceptualize it but came short of providing an answer. The formal answers were above my pay grade and written in mathematical language I didn't understand. We're talking about multiplication here, something I had been doing since grade school and I didn't have a good answer for him. So I attempted to understand it myself, and eventually just thinking deeply about what kind of operation multiplying is I came to an acceptable answer for myself.

I had been curious about Godel's work, and was reading a book called "Godel's Proof" trying to understand what had been proved. The book explains concepts, history, axioms and shows examples of proofs. I was in the footnotes reading about Peano's axioms,

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Phys. Rev. Lett. 128, 040403 (2022)

Published January 24, 2022

googling and reading about the various axioms we operate from. I attempted to start to write axioms for myself, and ended up with a narrative and an equation.

The narrative, or a metamathematical explanation is necessary because a simple proof isn't enough to explain the history of math. Math didn't come to us as a proof, it came to us piece by piece, concept by concept. The concepts build upon themselves, some concepts are built upon previous ones but each step in the logic is both building on, and referring back to itself. Metamathematics is useful for understanding the mathematical statements we make.

In making distinctions like Natural numbers are we are "carving nature at the joints" or slicing it up in a way we find palatable and digestible. Imaginary numbers is a terrible name, and complex numbers is better. Yet what numbers are not real? If all these numbers are expressed in "nature", then they are Natural. All "real numbers" and all other numbers able to be derived and exist in Nature are natural.

There are other concepts we might find useful here, what I'll refer to as "proto-math" and "proto-geometry": things such as counting systems and basic geometries we knew before we formalized math. My people had a base 20 math system, with a sub base of 5 which divides it into 4 parts. We used body lengths to to build qayaqs and atlatls to fit the users dimensions. We would partition furs into units of 5 adding to twenty. We had words for fractions, and in the use of these systems we had an understanding of them.

Even a dog understands physics in some way. Birds understand numbers and counting. We also understand math and geometry in some fashion long before we understand and this seems to be a precursor to that understanding. Any counting system implicitly contains the seeds of formalized or explicit math. Proto-geometries contain the seeds of formalized geometry. We learned physics through doing, and observation.

I will say, that what we call the Natural Numbers are probably the first thing and the easiest we understood. Any culture that had a counting system had an implicit understanding of math. The logic of math isn't contained in the numbers, but the operators. We can derive the operators and these concepts from our own experience of reality even without formalizing it. Probably all cultures had some conceptualization of numbers, any culture with any kind of primitive counting system understood math to a certain degree.

Base 60 was used in some cultures and we still use it in timekeeping with 60 base seconds, 60 minutes. Base 10 is what we use in general, but math can be understood in any base and it still follows the logical rules. We can make statements that contain no numbers at all, a=a, a+b=a+b so it seems to follow that the operators or transformation rules have logic that is independent of the number system.

What I am about to describe I've been calling an "unbalanced ternary system" because it has 3 elements. It is not 0,1,2 but -1, 0, 1 but can only hold a specific relationship with each other. The system is derived from these 3 elements *but only as a whole do they work.* We can express any base of math with the entities that are created from the system, so expressions in base 10 should hold. We can certainly express base 10/20/60 etc.

We will begin by attempting to explain the basic operators. Using these operators only we can build a logic system that can create every single number, and all relevant operators. As the system expands other operators are derived from these basic ones: =, +, -, and ().

So then, the in the beginning are the operators. From the operators come the “primitive numbers”, 1, -1 and 0. From those, the cardinals beginning with 1=1. The fourth fractions and such, and through the use of parentheses at that late stage begin forming groups and distinctions within the constellations of numbers able to be expressed and created in the system as it grows.

From these all other numbers and higher level operators are possible, they emerge from and related to the fundamental entities within the system. We can see certain relationships become possible as we build out our system, and as we build out concepts we can reapply them to the system.

Since we begin with the operators: parentheses, the plus and negative sign, and the equal sign. Let us explore a little what each operator signifies.The operators are the transformation rules, they dictate how things change within the system.

The basic operators addition and its partner subtraction probably came to us first. Even other non-human, and human-made entities are capable of counting and using math. For parentheses we partition dissimilar and sometimes similar but different concepts as part of our existence as humans. We can see equality, inequality and relationships between things. The concept of addition and subtraction are familiar to us even if some folks have a hard time with the calculation of it. We can see from a young age when something is added, or when something is subtracted. There are countless examples in the human experience of addition and subtraction even at the most fundamental levels of existence, such as life and death. I do not see the need to be long winded here, the foundations for commonly accepted logical operators seem to be firmly and obviously rooted in our experiences of reality.

( )

Parentheses are important. They partition and group. PEMDAS, is the order in which you read mathematical sentences. PEMDAS is not a hard and fast rule, but in general what we should be taking from this is mathematical statements need to be read in a certain order. Just like we read English left to right, top to bottom there is an order in which mathematical sentences should be read in order to come to a solution, or to ascertain the truth value. Parentheses are the first thing we have to read, and they serve important roles in math as they partition and group in various ways and through this partitioning allow many things, perhaps including the distinction and partition between numbers themselves.

=

The equal sign signifies a relationship between both sides of the equation. I do not think this mean these are literally equal unless both sides are exactly the same. 3+5 is not equal

to 5+3. The structure of each side of the equation is different. They have the same answer but the positions of the numbers differs. There is a relationship between these, and they are in some way equivalent but not equal. Regardless, the equal sign is central to math, it is how we find out if there are relationships between two things, and also how we confirm those relationships if they exist. It can also show us when relationships don't exist.

+/-

Positives, or the Natural numbers are the easiest to conceptualize and I think history proves this out This was not always obvious, the history of math demonstrates a slow uptake of the concept of negatives but again, it is the logical consequence of supposing or understanding a positive value. I myself had a hard time with negatives, I couldn't imagine it as a standalone concept but it is not a standalone concept it exists as a shadow.

"…even when one element cannot even be supposed without another, they may ofttimes be distinguished from one another. Thus we can neither imagine nor suppose a taller without a shorter, yet we can distinguish the taller from the shorter. I call this mode of separation Distinction."

-CS Peirce

We begin with +, but as soon as we recognize or assert + then - simultaneously comes into existence. If we assert 1, then -1 is the natural pair to it. If + can be conceptualized, we can neither imagine, nor suppose a positive without a negative. Nor does a negative make sense as a standalone concept without the positive.

The + sign has two uses, one as a transformation rule and the other showing value. Normally when we do math we do not notate a positive, it is just written as *n*. What we are saying is this is +*n*. It is only when a number has a negative value do we notate -*n*. This is important, but have not yet worked out what sort of notation I would use. The relationship between + as an operator and + as a signifier has to do with the construction of the positives. We use + to create a positive set.

I'm not certain we even have to assert numbers at this point, you can combine the operators or transformation rules only and end up with an equation that makes intuitive sense. The "null" set is equal to the "positive" set and "negative set".

( )=+( )-( )

The specific notation we use is not irrelevant, but we could notate these things however we like. What matters are the logical concepts that underpin them.

"An axiom is a sentence or proposition that is taken for granted as true, and serves as a starting point for deducing other truths."

-New World Encyclopedia "Axiom"

We begin with some assertions, and a little justification for each. Extremely simple axioms,

but we are dealing with fundamentals here. We will prove some of this out shortly, for now:

1 is a number

If 1, then -1

If we combine 1 and -1 then we have a new number, 0

Defined as 1-1

Using the values in their dual role as operators, and assuming at this level the only operators we have available to us are the base operations, as the rest do not yet exist at this level in the system. We combine only, although in the combination of negatives do we encounter some conceptual difficulties but these can be overcome in the understanding of the relationship between positive and negative numbers and the kinds of things they represent.

Still, we begin with +, and then as a consequence -. When we combine these two the result is zero. Positive and negative cancel each other out, and the result is zero. If every real number has a negative partner then when we add them all together it is zero. Is zero nothing? Zero is the sum of all the integers.

0=1-1, then 1-1=0

The least initial deviation from the truth is multiplied later a thousandfold.

-Aristotle

Some issues I had with the notation Godel uses in his proofs (and this may have no consequence for his system) was parentheses. Parentheses [or brackets] are only used in tandem, rarely alone. Even when used alone it implies the other, () they partition. From my perspective the axioms from which he begins his inquiry also suffer from insufficient grounds or justifications for their addition. Is 1 the immediate successor of 0? I don't know if I agree with that relationship, I do think 1 is the successor to 0 in some sense. As we will demonstrate the relationship between zero and one is more complicated, as is the identity of zero. It does contain certain infinities within it. I am not entirely sure I understand how Godel system works even after reading and studying a bit about it. That said I do not necessarily disagree with the conclusions and it seems any and all objections I have are rooted in the system and structures he was born into and assumptions he began from. That there are true statements that can never be proved does not hinder the system I propose here. However, the foundations on which he built his system, which was based on the accepted paradigm in mathematics at the time suffers from these initial errors.

In these next parts we will show how one can, using only the basic accepted operators, numbers and concepts, build out and express the algebraicially complete number system.

Showing that, it follow that the building blocks for higher mathematics are contained in every culture that has a counting or logic system of any kind.

(0)=+(1)-(1)
N=+*N*-*N*

Combine a positive, and a negative sign only and they destroy or combine. At this fundamental level we have only the established operators available to us at this level so combination is it. This seems to indicate zero as both positive, and negative and helps form the foundation. This is a measurable 0

As I hope I have shown, that any culture that has a number system, within that number system is contained all the components necessary to express an algebraically complete system.

Let's build.

0=+1-1

+1 +1

+1=+1

As a quick note, that it yields this answer we can read it as an assertion, that 1 does equal one, it refers back to itself and is true according to the way the transformation rules work and how we've attempted to define them. We can similarly apply the other rules and yield -1=-1 and 0=0. We can think of it as asserting its members as true. We have to justify each one after the fact, because we began by asserting 0=1-1 but we cheat a bit by asserting this first, but 0=1-1 is trivially true according to commonly accepted math.

Now we have backwards established each member using the transformation rules of +/-, and if 1-1=0 then we can simply collapse the +/- side into zero, or add and subtract one from each side both to obtain the statement 0=0.

0=+1-1

-1 -1

-1=-1

0=1-1

+1-1 +1-1

0=0

0=1-1, then 1-1=0

0=0

These are the reflexive definitions of each element of our original equation. We have now proved 0=0, 1=1 and -1=-1 beginning with a statement that is trivially true in the modern

mathematical paradigm. Zero does equal positive one minus one.

Could the grounds's grounding the grounded ground the grounded? Apparently.

We can keep iterating in the same fashion to build out our number line.

From 1 we can build 2.

1=1

+1 +1

2=2

We can construct all the positive and negative whole numbers to infinity by repeating this process.

Now here I would say based on earlier logic then -2 is implied by 2. Negatives come immediately after and in partner with positives, but we can still use the transformation rules in the same way yield these statements to infinity in both directions. Now that we have the concept of 2, we now have the concept of one half. We also begin to be able to conceptualize multiplication and the logic of multiplication easier to understand when we build the system out a bit.

Multiplying is repeated addition in some literal sense but is easier to conceptualize as a grouping exercise. Let's imagine we built up and proved our system to 20/-20. It would be trivial to do so but takes up unnecessary space. We now have 0 but we also have 1,2,3,4,5 etc. and -1,-2,-3,-4,-5 etc.. Now that we have more to play with we can begin to look at some of the structure we are building and what concepts are now available to us.

We can now multiply and divide, more than repeated addition, multiplication is a shortcut and a grouping exercise. 3x5. What does that statement mean? 5 groups of 3 (or maybe the reverse, I'm reading left to right.) This is 15.
(+1+1+1)+(+1+1+1)+(+1+1+1)+(+1+1+1)+(+1+1+1). There are five groups of three, and we can also build out from the 0=1-1 and confirm 15=15 in a similar fashion starting with

1=1
+1 +1

2=2

Etc.

15=15

We can now divide, which is a similar exercise in the other direction. 15/3 or fifteen divided into groups of 3. (+1+1+1)+(+1+1+1)+(+1+1+1)+(+1+1+1)+(+1+1+1) and we can see there are 5 groups of 3 and the 5 and 15/3=5. Numbers now begin to have some internal structure. 15 can be understood as 3x5, 5x3, (+1+1+1…) etc.

Zero gives us some conceptual difficulties, and at this point I hypothesize this is due to the nature of zero as a number. Not as a placeholder, but as a number. We know any operation we do with zero either leaves the operation unchanged, or yields zero. When we say 5x0 we say there are zero groups of five, and vice versa 0x5 is 5 groups of zero both of which yield zero. 5/0 - this is more difficult to conceptualize or to talk about metamathematically. 5/1=5 because there are five instances or groups of 1 in 5. How many groups or instances of 0 in 5? There are no groups of zero within 5, one could say there are also infinite groups of zero within 5 but an infinite number of zeros, is still zero so either way the answer remains the same. 0/5, there are no groups or elements in 0.

We can fractionate 1 using the new entities we have created. Fractions can be "smaller" than one, but they require the construction of higher numbers to express them. ½ requires the concept of 2, and a ten base decimal requires the concept of 5 and 10 in order to express it. Fractioning 1 into a million parts requires the concept of a million, so in the order of logic we are attempting to follow here the million precedes the fraction. So even if there are infinite fractions below one, it never reaches zero and never goes above 1. They also require the concept of division, which as we have attempted to show also requires building out some mathematical structure for it to make any sense. These are all possible and can be used to portion, approaching 0 by dividing 1. 1/20 is able to be expressed, but that simple statement contains a lot of logic to establish it. We need the concept of 1, the concept of 20, and every number in every step along the way to get 20. Division derived from multiplication, derived from addition etc. and as the number "gets larger" it refers to gets smaller.

Back to the previous story for understand something like -5x-5. What are we saying or asking here? We know the answer is 25 but why? "-5 groups of -5" what could this possibly mean? We could say something like "5 inverse groups of -5" and the opposite of -5 is 5 and so it would yield 25.

Now that we can multiply and divide we now have access to powers and roots as these are special instances of the previous two. 2^2 is 2 groups of 2 or 4. 2^3 is 3 groups of 2 or 6. √4 is 2 groups of 2, √9 is 3 groups of 3.

We can apply √-1 and there are the complex numbers. We can now build complex numbers in addition to the the transcendentals although these numbers will not be completely obvious in this system. Pi may require geometry to fully understand, but it can be expressed in this system. Starting from a statement, we build upon itself creating other true statements and using the same transformation rules to make other true statements building upon the first. What is left to be expressed? Anything I have not covered here seems to be able to be able to be expressed in one form or another only using these concepts we have built.

I am unsure of how to conceptualize 0=+1-1, a sentence for one entity. I don't think of it as an equation but as an entity. Maybe it would be more appropriate to express it as its own symbol. Perhaps as Y There are some very unique identities of this statement, and only following the transformation rules we can construct other tautologies and as we build out the system with numbers we can expand our concepts all beginning with its own members

and building on those. The logical trit of truth that contains its members as solutions, and following the rules of math we have been following for centuries we can make it express every possible number I am aware of. You can't make it express itself, but you can create any kind of sentence with the outputs as the system builds out. Math gives us a glimpse into the underlying structure in some way.

I just happened to write 0=1-1 down. It might mean nothing at all, could just be a logical curiosity but it does seem to have some interesting properties. It is trivially true, and we can say this from our vantage point at this advanced stage of mathematics. The solutions that can be derived from it first refer back to itself, the first solutions one gets when one applies each of the transformation rules are its constituent parts. It is self grounding.

All solutions derived from it are in the form of 1=1, 2=2, -1=-1 etc. Every Real Number is equal to itself and it this equation yields the definitions for everything but itself. Every other number is a set of it, but it is not a set of them. I can't think of a way to make it go back once you start transforming. It seems to be an axiom from which we can build.

One of the consequences of this is once we've established the entire landscape you can make untrue statements but they are proven untrue following the logic rules. 8≠6 and any statement you try and make with it even if you posited it, also yields untrue statements when you apply the transformation rules. So we can make untrue statements such as 5+3=4+2 but following the transformation rules we can show they are untrue. 8 does not equal 6 but we can nevertheless make the statement. We can build out using faulty logic but it will yield only other untrue statements which we can verify the "truth or falsehood" using the transformation rules. We cannot make our original equation and system yield 8=6 though. The foundation will not support such a statement. We can see when relationships exist between things and we can see when they don't.

Using metamathematical statements we can more easily conceptualize what the statements are saying. We can more clearly parse them, and follow each statement back to its logical and conceptual roots.

In doing so it seems more and more likely that math is discovered rather than invented, but as I said earlier in the essay I am sympathetic to Mathematical Platonism. Perhaps like the rest of humans in my development I could only conceptualize 1, and struggled with the idea of 0 and -1 and only in the understanding of them in relationship did they finally make sense to me.

I don't know that one needs to understand the foundations of math to use it effectively. We also use gravity to great effect without fundamentally understanding it, as is the case for even much more mundane things. Do we need to understand how a car works in order to drive it? To some degree yes, but we do not need to understand the fundamentals at all in order to drive. Probably very few people are interested in the subject, and my interest lies primarily in making the argument for some kind of platonism about reality in general. I have on occasion referred to this view is spiritual platonism, although it may be redundant it is only to relate it to mathematical platonism. They in the end make similar claims about the fundamental nature of reality. This platonism about math also leads me to believe that

the Shrodinger equation is telling us a true story although I disagree with the interpretation.

I hope to have made a convincing argument for the idea that math was discovered, not invented. The ubiquity across cultures, the fact that it arose independently across the world in probably every culture. Any culture that contains a counting system implicitly contains the necessary concepts for modern operators.

Time

This section is quite a bit longer as it is the first paradigm shift that occurred for me, the result of my re-orientation around time was my reorientaion around everything else I understood of how the universe works.

How we construct our lives and give them order has a great deal to do with how we think about and live in time. But where does this sense of time come from and what, really, are its implications?

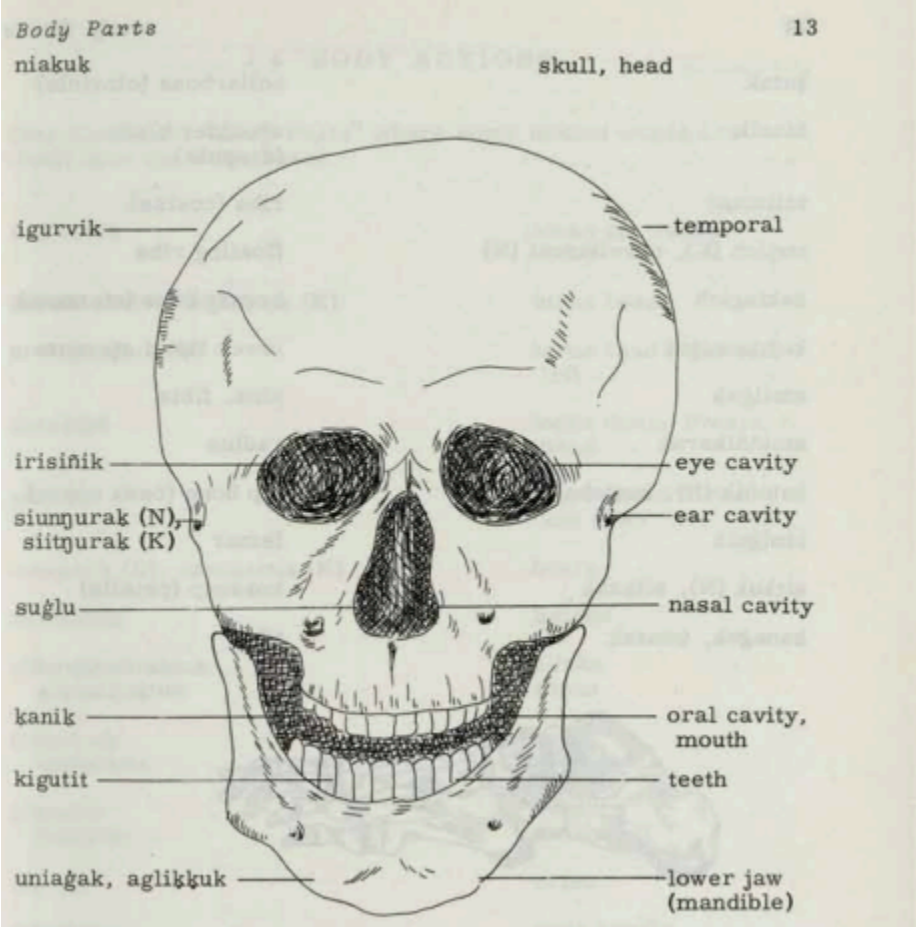
- "Today is today and tomorrow is tomorrow": Reflections on Inuit Understanding of Time and Place, Nicole Gombay, page 1.

I was hosting a dialogue on race and equity in my family's home village of Naparyarmiut, or Hooper Bay, Alaska. After the dialogue I was pulled aside by a woman who worked at the local school. She shared with me a story of her Cherokee Indian Princess ancestor. This is a very common story from people claiming Indigenous ancestry. I had heard of such stories, but this was the first I had encountered one in the wild. The story was long and convoluted, involving a Cherokee princess who was kidnapped by a minor European noble who impregnated her then abandoned her, with child back to the tribe. The tribe sent the child "back East" to be educated in the ways of the white man and when he returned home he taught them all he had learned. She finished this outlandish story with "...and the greatest gift the white father ever gave to your people, was the concept of time". I stood there for a moment blinking, not even sure how to respond. I thanked her for her story, and walked away.

We often joke in our community about Native Time, we are often late to meetings, people straggling in as they are able to make it and meetings often go long past the appointed hours which frustrates Westerners who are used to punctual arrival and dismissal. In her ignorance she sparked an internal discussion, I asked myself "did we understand time in the same way they do?"

Time as a Cultural Construct

For many cultures time is conceptualized differently, for the Inuit[3] time was a relative concept. We had no need of mechanical, or constructed time. Yet we understood a concept like time, In the Inupiaq language the postbase ’vik means both “time” and “place” and is used in words such as igurvik roughly translated as “the temporal bone; the temple”. Time and space were interrelated concepts.



Our world had no use for mechanical time. Years were kept track of with the cycle of the seasons and movement of the stars. We had thirteen moon months, and days happened just as regularly as they do everywhere else.

Our use and understanding of time was relative. Distance was understood to be a relative thing, measured more in terms of time and terrain than distance itself. One could speak of distance as the raven flies, but we were not ravens so distance was calculated knowing the mode of travel, the terrain that lied between yourself and the destination. It even took into

[3] Inuit is a pan-term for quite a large group of people, and my characterizations of the view may not apply to every group of people to whom Inuit generally refers to. Inuit people and their territory span the circumpolar north, from Russia, across Alaska, through Canada and occupy Greenland and the languages share the same root, and many beliefs are consistent throughout the territory despite the obvious differences.

account whether or not one was traveling with children or elders to calculate the temporal distance. The distance was measured in the amount of sleeps it would take, and this is also a consideration that has to be taken into account as the traveling was being done by humans. So as we can see, this was a spatiotemporal reckoning, and it was a reckoning because any number of things could affect how long the travel could take.

We knew when the fish were coming based on context clues in the environment and seasonal cycles rather than a date range. We gathered plants and berries when the seasons and conditions were right. The physical world can be described and understood without a constructed concept of time. Almost the entire universe can be understood through process and sequence. Time didn't exist in the way that it does in the Western paradigm.

Inuit are oriented around the present, the past is the past - a settled state. The present was unstable, time and place as interchangeable concepts were always in flux. Certain things were predictable, land does change over time but it changes slowly. Weather and animal patterns were not as predictable but had history and habits that one could use. In general time and space are not to be understood as a fixed concept. Even as we sit still, the universe moves around us, the stars in the sky move as the planet and our solar system move around us and each other.

Time is a subjective concept, contingent on many things. We live in the ever present now, the future can be predicted to some degree but it is unknowable. Today is today, and tomorrow is tomorrow. Don't bring today into tomorrow, and don't bring tomorrow into today. The future is an unknown state, there are so many variables at play that one could not predict the future in a meaningful way although one could attempt to do so using the past, and interpreting the present.

We understood time, however we did not understand it in the same way. Meetings begin when they begin, when the right people are present. Meetings end when the purpose of the meeting has been exhausted, or when the topic is tabled.

The Māori people had their own view of time. One of the most striking things I was ever told was how they conceptualize themselves moving through time. You are facing backwards, toward the past moving into the future. *Mua* is the Māori word for past and the literal translation is "in front". Their cultural view of time contends that the present moment and the future cannot be taken out of the context of the past, all of these are related and intimately connected. This is also reflective of their ocean navigation techniques, they use the stars behind them to chart the path forward.

Māori have a non-linear view of time; the past also plays a role in interpreting the present, and the past and present are to be taken into account when predicting the future.

…within Māori oral tradition, there is dialectic between past and present where the past is reordered and the present reinterpreted. The cycle of traditions about the people, land, and events is dynamic and fluid, not static and fixed (Binney, 1987). Hence, the past is not necessarily the precursor to the present, but an inextricable part of it.

The past can be thought of as the development of the present, and it is a necessary part of the present. This has echoes of Kuhn in that the past can be re-interpreted from the present moment, and that the past can take on new meaning when we learn new information that reinterprets the old data. For instance when astronomy shifted to heliocentrism, the old data, or the past data were able to be reinterpreted in light of the new paradigm.

Western culture has a tendency to view their cultural position as normative, and all other culture as deviating from the norm. Science, and science minded people are in general, naively physicalist, and a culture in which mechanical time prevails. The question is how much does this affect conceptualization of time?

Time is the most frequently used noun in the English language. We structure our society around time and the infrastructure many of us have lived in our whole lives reinforces this. We don't schedule around daylight hours, or any kind of natural rhythms instead we conform to clocks and time zones.

Time is sometimes considered the fourth dimension. There are the three spatial dimensions, and time is viewed as a necessary dimension to explain reality. Time is sometimes explained like this: "if you want to meet a person at coordinates XYZ, you need to specify the fourth referent if the goal is to meet there at the same time" and this referent is time. Let's unpack why time is an unnecessary referent, and show how time seems to be an emergent property only.

Time as a construct is an incredibly useful tool used to coordinate and measure many things. Some early tools for measuring time used hourglasses and sundials to measure rough intervals. Later we used pendulums in combination with springs and gears to measure the intervals that use to divide and name different times of the day. Most clocks today use the vibrations of quartz crystals to measure intervals. When we need more precise and reliable measurements of time, we use tools like atomic clocks.

Athough we use real processes to decide what a second is, a second itself isn't something that exists independently. A second is a constructed concept, we use it to measure discrete intervals that we then use to define time. Minutes are derived from seconds, hours from minutes, and the clock itself and time it measures is a tool we use to portion our day into whatever pieces we, and the systems we create, see fit.

The days of the week are similarly fabricated. What context clues would let me know today was Wednesday if we didn't know it already? Is there anything inherently Wednesday about today? Weeks are built on days, and are useful for facilitating commerce and coordinating large groups of people across disparate spaces and economies but are constructed concepts. Most of what we talk about in reference to time are constructs we create for our own purposes.

None of the examples are meant to give the impression that temporal constructs are not helpful tools. After all money is also a construct, but one that allows us to abstract things of disparate value into one medium of exchange, thereby facilitating a great many exchanges. These are incredibly useful tools but do they have any foothold in reality?

These tools give the impression that time is discrete, seconds are discrete chunks of time. They give the impression that time is a linear process, we move from 2022 into 2023. How much do these constructs influence theories and conceptions of time? So much of what we refer to as time is obviously constructed that there are those who think time is an illusion.

Illusions are emergent, while a desert mirage is not "real" we certainly see and experience them. They emerge from real physical processes that give rise to them which includes our own perception of them.

Time is gifted dimensional status, and there are those who insist it as real as space. Time as viewed in the modern West seems to be a mashup of constructed concepts, process and sequence claims and we need to spend some time pulling these threads apart.

Science is not an acultural enterprise. The things science studies may be, but science itself and its practitioners operate from a cultural orientation. Understanding how time is used and divided within a culture can provide insights into how it is understood. While individual scientists may hail from different personal or national cultures, science itself has a culture that all scientists for the most part adhere to. Physics in particular uses very specific definitions for how time is to be measured, the different units of measurement and the accuracy of measurement is of utmost importance. This is not strictly for cultural reasons, but it is part of the culture of science that one treats time and the measurement of it with the utmost importance.

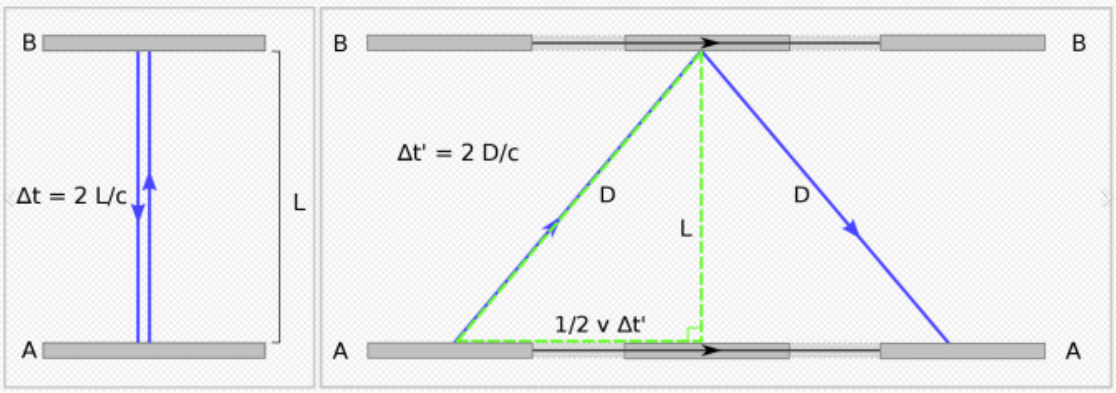
While time itself is not well understood, the ways in which we quantify time are. The International System of Units (SI) defines a second as:

The second, symbol s, is the SI unit of time. It is defined by taking the fixed numerical value of the cesium frequency $\Delta\nu_{Cs}$, the unperturbed ground-state hyperfine transition frequency of the cesium 133 atom, to be 9 192 631 770 when expressed in the unit Hz, which is equal to s^{-1}

When we measure time we are actually measuring intervals, we then use those intervals to define time. We can measure a second to a pretty amazing degree, yet even in using real and accurate ways of measuring a second do not give a second any kind of independent reality. So where is time real?

The Light Clock and Spacetime

Einstein's thought experiment to show the relationship between space and time was a light clock. This theoretical clock uses a photon bouncing between mirrors to measure perfect intervals. A photon is used because the speed of light is constant in any frame of reference so this theoretical clock keeps immaculate time. The photon bounces down and up inside this light clock with a constant interval.

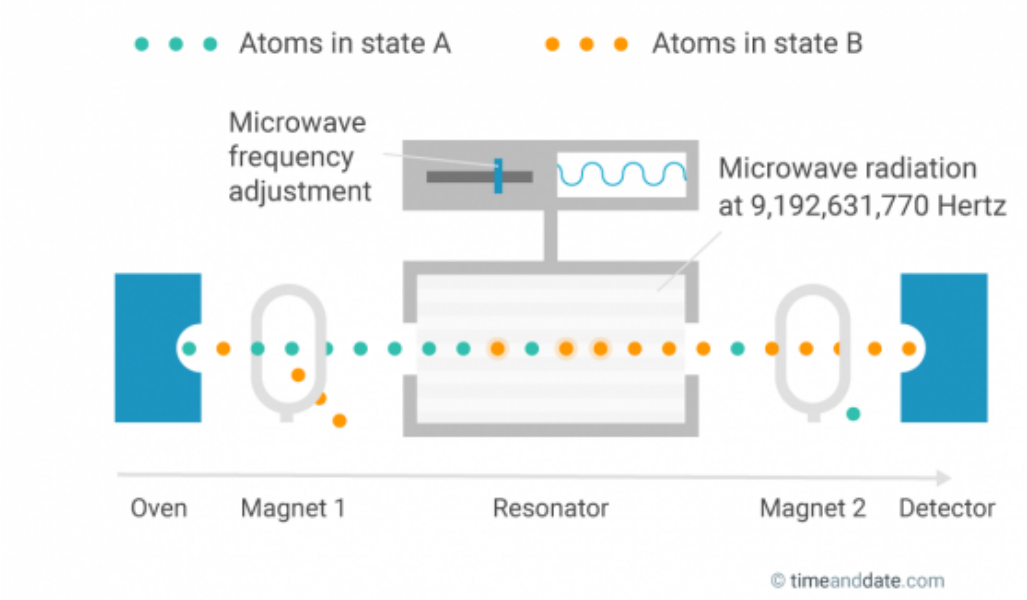


TimeDilation

By Sacamol – Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=48778704

What happens to that photon when you start moving that clock through space? The photon is no longer moving just up and down - it is now moving sideways through space. This new directional movement causes the photon to travel over a longer space in order to complete its job. It is a matter of geometry, the photon has to traverse the longer length as the clock moves. This is time dilation.

In the Hafele-Keating experiments they took four atomic clocks and flew them in different directions around the globe, and, when the experiment was complete, the clocks were off by the amount predicted by Einstein. The Hafele Keating experiments and Einstein's thought experiment suffer what might be a fatal flaw. They both use clocks that use space to measure time. Atomic clocks are not light clocks, but they function similarly in that they use space to measure the intervals. There is some circular logic at play here, we are using a clock that utilizes space to measure time, to theoretically prove that space and time are the same things.



Atomicclock

Another issue with the Hafele-Keating experiments is the clocks in the experiment might have displayed different times, yet each clock was firmly and observably in the present. Now, this isn't to say that something important wasn't predicted or proven, but it is a stretch to claim the thought experiment or the resulting experiments proved that space and time are the same. Instead it seems to have proven clocks that use space to measure time, needed to account for their movement through space, in order to ensure they are keeping good time. This does not mean that there isn't a relationship between space and time.

That we move through time is not as apparent as one would like to believe. As humans we exists in a world of constantly changing relationships, some more apparent than others. Days are obvious, they are marked by the rotation of the earth which has rotated on its axis for as long as we have inhabited the planet. As the earth moves through its orbit, it's relationship with the sun is constantly changing. The angle, the distance are constantly changing and things around us and our experience in them change right along with it. Seasons, sunlight comes and goes. Our bodies change, our process has development, a beginning and and end. What does time add to this explanation? We could also say that we have limited time on this planet, and you end up saying the same thing.

We already use the words interchangeably even in English. When I say I can make space in my schedule, how am I referring to space here?

Time's primary use is as a human centered referent. What in the physical world relies on time to define it? We say things move through time, but this says nothing without explaining what time is. Things move, things change, relationships change. The processes occur in whatever sequence they occur in without adding a temporal dimension to them or not. The changing relationships happen whether we use the discrete intervals we have constructed to measure them or not. Is time a causal agent, or is time merely the construct

we use to discretize these processes for our own uses? If it is not a causal agent than what purpose does it serve in our scheme?

As we have explored, time is a useful construct. So are rulers and the distances we have similarly created to give a framework in which to understand these things. Cause and effect require no temporal agent, even our experience of cause and effect require no temporal frame to explain processes or a sequence of events. Iron oxidizes whether we measure how long it takes or not, and there is no easily identifiable temporal agent in the process causing it happen. These things happen whether we put them in a temporal framework or not. Processes occur independently of time, although we often use the constructed concepts of time to measure regularities in processes.

The concept of sequence itself does not require any temporal element either, you could also consider a sequence of seven ones:

1111111

The difference between the first one and the seventh one? Its position in the sequence. The first one is 1(1) and the seventh is 1(7). Although they are all ones, they differ in their placement only, there is no temporal agent needed to distinguish sequence.

Where is time fundamental? It seems that all the ways in which we conceptualize time are rooted in other more tangible phenomenon. They are rooted in physical processes, relationships between things, and sequence. It is rooted in our need to put these things into frameworks for making sense of the world rather than something fundamental.

Arrows of Time

There are some theories for the arrow of time, and none of them require a distinct temporal dimension to explain them. Let's consider 3 explanations for the arrow of time:

The Psychological Arrow of Time

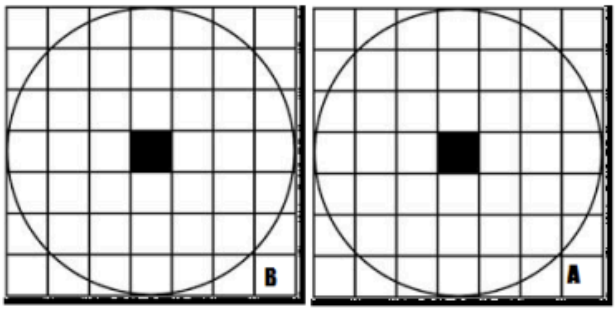
None of the processes we exist in or observe require a temporal dimension to explain. Time as a construct exists to assist in our sensemaking of the world and we place and define processes into discrete and distinct boxes but this is for our own purposes. The earth spins and follows it path around the sun and there is no casual temporal agent here, only our experience of it, but our interpretations are often based on assumptions of how things work. At one point, many humans believed the sun went around the earth, and it certainly appears that way even when we know better. We experience things, "one after another" and we perceive moments that seem to follow one another, but just as the earth is not the center of the universe, neither are we and our individual experiences.

The Thermodynamic Arrow of Time

In an isolated system entropy tends to increase with time. Saying entropy tends to increase "with time" adds an unnecessary referent. Only if we first assume that time is real does it make any sense to add the referent. Entropy tends to increase in a closed system, period.

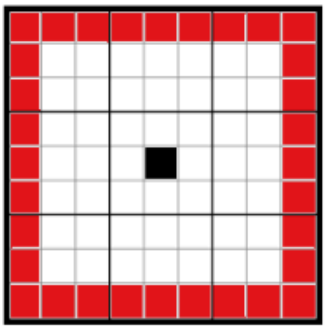
The Cosmological Arrow of Time

This seems to be the only arrow which could explain why time seems to move in a direction. A thought experiment is in order. Imagine a small room. This room has the following qualities: the room is composed of forty-nine units arranged in a seven by seven grid. Each unit cannot be further subdivided. While it is divided into units, all forty-nine units are part of one whole that is connected on some fundamental level. The room continually grows, in this case adding one unit all the way around. We place a point on the unit in the middle of the room.



Placeholder images

Room B begins to expand, adding one unit all the way around creating a nine by nine room.



red denotes added units

rooms

Now that the room is nine by nine, the relative placement of the point has not changed, it is still in the center of the room. However, its spatial relationship to every other unmarked unit has changed, if we were to think of this as a X/Y axis the point was previously at 4,4 and now the point is at 5,5. Now, we can continue expanding this room in the same fashion and the point's relative position will remain unchanged, but its placement continually changes with each iteration. This is true for every other units spatial relationship. We expand the room past the visible horizon and as the expansion occurs the spatial relationship of the grid points are constantly changing.

In short, they (Inuit) must be in, and develop an extensive understanding of, the environment. Things do not happen in discrete parcels. They are not bounded. Rather, everything is interconnected, and actions can have numerous, often unforeseen, consequences.

-Gombay, ibid, 5

From the Inuit view, everything is connected and everything is in some way related. This wasn't just the view of primitives as has been imagined in the past, we were very observant of the world around us. You can see the relationships between land, air and water systems and all of the various entities that occupy them. We can, as the Native Hawaiians do, observe the relationship between the sun and the water cycle. How the sun indirectly provides fresh water through its role in this cycle. Even when there wasn't a direct and obvious link between two things you could see that through the chain of relationships see that everything ends up connected in some fashion.

Through quantum entanglement, everything is connected. This we don't even need quantum entanglement to explain, there exists a chain of relationships that connects all things. The universe is expanding. Then just like in the thought experiment the spatial relationship of the entire universe is constantly changing. It's not just that the universe has grown since you started reading this, the spatial relationship that existed when you started reading this has changed and we cannot go back.

Entities should not be multiplied beyond necessity.

-Occam's Razor

The previous explanation of time as the fourth dimension is no longer even needed. Instead: "we will meet at XYZ coordinates when the spatial relationship of the universe has reached this particular arrangement." Let us not multiply entities without necessity. This seems more complicated but is simpler than adding a new dimension when it can be explained with only three.

Time is a useful shorthand here, still, it does not reference a different dimension. It is still easier to use an agreed upon construct as mechanical time to coordinate with one another or to quantify certain things, but we need not give time its own dimensional quality when it seems to be the case that in every instance that any way we choose to define time, it is emergent from other more tangible concepts.

Time as currently imagined seems to have an unrecognized cultural component to it. Similar to Western culture, science perhaps has a certain lack of self-awareness when it comes to how it conceptualizes time that is inherent in the culture of science itself which is by and large clock and mechanical culture. Consider how science measures and accounts for time.

Time does have a relationship with space, yet Einstein's light clock and the experiments purporting to prove his point suffer from a vicious circularity in logic, can we prove space and time are the same thing with an instrument that uses space to measure time?

The constructs we have created around time retain their usefulness as a tool for sensemaking. Time is real enough, and as the expanding room thought experiment attempts to demonstrate the cosmological arrow of time can account for the relationship

with space, the ever changing relationship of the universe. Time seems to be an emergent phenomenon, and perhaps emergent from many different phenomena rather than a dimensional entity.

That anything has duration is emergent from and incidental to processes. That there is regularity and duration to processes are what we construct time from, but these processes occur whether we measure them or not, and their duration is what it is, regardless of the number and unit we assign to it. So, yes the burning ball of fire in the sky appears and disappears with regularity, and the seasons do as they do but if there were no humans here to name these things it would change nothing. Time drives nothing, the expansion and movement of the universe do but we should be careful not to confuse these things.

We have a physical explanation for why we can see and experience mirages. Yet when you get close enough, the mirage disappears. Perhaps it is the same with time.

This reduces the number of dimensions by one, time no longer has dimensional status but rather an emergent feature of the constant change of the three we are already familiar with.

I think at root the discomfort with the world quantum mechanics implies versus the comfort and safety of a Newtonian universe flavors both interpretation as well as which interpretations have favor. Take a look at clockwork universe we have created for ourselves, one of regularity and monotony.

How free will is possible in a determined system

It seems a strange things to me to have people promoting and popularizing a worldview in which we have no agency, or no real agency. To deny free-will has a nihilistic aspect to it that I think goes underappreciated, and seems to be the byproduct of some poor assumptions, but end up with the same issues of a worldview where nothing really means anything, its all just chance. Perhaps it is, but if it is all meaningless in the end, then it is all meaningless. I try and clear up some of this with a thought experiment that is both about the world we inhabit, but also how choice is possible in a “fully determined” system.

Many of you are familiar with the game Minecraft. If you are not, it is what is known as a sandbox game. It is a game that has no real goal or storyline other than what various folks create with it. In this game you are free to do what you like within the limits of the game. The thing to understand about Minecraft is it is a fully determined system, meaning there is nothing you can do in the game that isn’t pre-determined. The whole world you enter when you play the game is pre-programmed. You can only operate within the limits of the game, but within those limits you are for the most part free to do as you please.

I don’t know if the thought experiment here is necessary but indulge me - let us assume an agent with free will. If we give this agent access to a method of controlling the character, and logged them into a Minecraft world could that agent exercise that free will within the game of Minecraft? The answer is presumably yes. The point here is that you can exercise free will within a fully determined system if that system is the kind of system that allows it.

The world in which we find ourselves is more akin to a game of Minecraft than it is a movie. We are told the universe is fully determined, and it is in a sense, but you are free to operate within those limits. None of us are truly free in that we are for the most part stuck on this world, stuck within our bodies and we are limited by the various contexts we are born into, such as geographic and socioeconomic status.

Even a little free will is still free will, if one were born into a cage then one still has free will within the confines of that cage. As a society we cage people who exercise that free will in ways that doesn't comport with whatever societal values exist, and it is through tools like this we limit free will. We also limit ourselves, through laws and norms but we are also free to flout those, and we often do.

Similarly, just as in the game of Minecraft we can change and shape the world but only consistent with the laws of the universe. Within the bounds of the determined system we can operate, but the system is not determined in the way we normally think of the word determinism but I can't think of a better word to use here to convey the proper meaning.

The world is fully determined, but not all paths are realized. We will explore how this works later.

How gravity works

The universe tells us it is probabilistic yet things seems very determined. How can we make sense of gravity in a probabilistic system? Here will will utilize a thought experiment, and another game example.

Forget Newton and the apple, instead we will use a rock. Remember that we have free will, and using that free will we can change and disrupt systems. So we will use this free will to pick up a rock, but instead of thinking about it as simply picking up a rock let us reorient: we are moving a piece of the planet Earth and removing it from the state it has settled into. When a rock is sitting on the ground, it is in a stable probabilistic state, the one it has settled into over the course of a very long time. We move the rock from that stable probabilistic state into an improbable one by picking it up. One would not expect to find a rock hovering in the air. The weight you feel from the rock is the rock "wanting" to move back into a more stable state, and when you release it the rock immediately moves from the improbable state you moved it into, to a more stable probabilistic state.

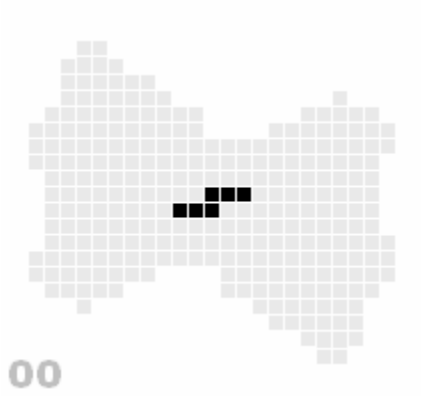
The resistance you feel when climbing a mountain is due to you moving yourself into an improbable state. If you were to let yourself move to a more probable state, by giving in to that resistance and letting yourself fall down the mountain, you may come to rest at a more probable state but unimpeded you would continue to roll down the mountain until you came to rest at your most probable state.

As the universe developed it moved through many probable states, and whole systems settled into relationships with one another. So again, instead of thinking of the earth as a planet moving through space think of it as an entity that has settled into a probable state in relationship with other entities also settling into their respective probable states. So the

earth is moving in its orbit, but its orbit is the probable state it has settled into. At every point in its orbit it is stable within the state it has entered into.

My “gestalt switch” moment came from watching an evolutionary sequence in Conway’s Game of Life aptly named “Lumps of Muck”. Conway's Game of Life is a cellular automaton devised by the British mathematician John Horton Conway in 1970. The "game" is actually a zero-player game, meaning that its evolution is determined by its initial state, needing no input from human players. One interacts with the Game of Life by creating an initial configuration and observing how it evolves. The game evolves within a bounding box that doesn’t change.

The sequence Lumps of Muck settles into 4 blocks after 65 generations. Blocks are “a still life (or stable pattern) is a pattern that does not change from one generation to the next, and thus may be thought of as an oscillator with period 1.”



Watch the sequence a few times, then after watching the sequence imagine the first iteration as the beginning of a small universe. This is what I saw, a universe beginning, and iterating until it settled into stable states. This is not exactly how the universe works, but perhaps similarly. Remember, the universe tells us it is probabilistic, and this is how I have reconciled the stability and seeming local determinism.

The earth itself as part of this iterative process, settling into a stable probabilistic state, exactly as we know it. The bounding box we exist in is expanding but the same principle is at play. When we pick up a rock, we pull a piece of the earth out of this state and when we release it, settles back into another stable state. The universe, and the earth are not so simple as this, the earth is not an unmoving block but a dynamic changing environment, but on the whole is pretty stable.

Dark Energy/Dark Matter, the Potential Worlds Interpretation of Quantum Mechanics.

**“[T]he atoms or elementary particles themselves are not real; they form a world of potentialities or possibilities rather than one of things or facts.”

— Werner Heisenberg

Potentiality precedes reality, there is nothing that exists that didn't first have the potential to exist. There is a relationship between these things that cannot be severed.

The world broadly consists of a few states: realized, realizing, unrealized. These roughly correlate with past states (realized) present states (realizing) all future potential states as well as past states (unrealized). There are a few parts to the the dark world, one is past states that are complete, realized and passed and can no longer be changed. Another is past states that were possible but never realized, like the world where you and your ex worked out. Worlds that were once possible, but no longer can be. The other part of the unrealized world are the future possible states which have yet to come. These correlate with the what I call the "dark world". The light world is the world we are all familiar with, constantly realizing and both passing into fully realized and moving into future possible states. While it may seem like things are stable, they are only relatively stable. Even if something is changing slowly, almost impercebtibly it is changing. Some things last millions of years, so it may seem stable to us who only last a hundred if we are lucky but it is also changing, moving.

We will assume everyone reading this has some familiarity with the many-worlds interpretation of quantum mechanics. As a reminder, from the wiki:

"The many-worlds interpretation (MWI) is an interpretation of quantum mechanics that asserts that the universal wavefunction is objectively real, and that there is no wave function collapse. This implies that all possible outcomes of quantum measurements are physically realized in some "world" or universe."

The potential world interpretation begins from the same basic assumption, that the universal wave function is objectively[4] real. The other worlds exist in the form of dark energy and dark matter.

Dark matter is what happens to the worlds that don't happen. Just as matter is a settled state, so is dark matter. The things that could have happened, but didn't.

I digress here a little to nitpick about possible worlds, the only possible worlds that exist are worlds that were possible. There may be worlds with different properties in a multiverse, but in this one it is limited to worlds that were explicitly possible. Say you sometimes have three cups of coffee in the morning, and today you have had two and are considering a third. The day passes, and you decided not to have a third even though it was possible for you to make that choice. Whatever part of reality that was once possible in you having that third cup passes into dark matter. If it was at one point a possible path no matter how unlikely as long as it is not zero or impossible, but through your decision and the path chosen the "matter" is now settled. We chose the coffee because it is usually a mostly, but not entirely inconsequential choice but one that has a real timeline associated

[4] I take issue with the word objectively, but we accept it in the way it is intended to be used here. Meaning the wave function is not simply a mathematical reality, but it truly describes reality.

with both choices.

The reason I offered the explanation for free will first was because our choices play into this. We, and our actions are part and parcel of the universe and our possible paths that are dictated through the choices we make are part of this.In the two slit experiment, the particles only appear in places they have a probability to appear, so there are no worlds or choices that are not probable.

Dark energy is the future probable states of the universe, and contained within it are all of our probable choices we can singly, but collectively make throughout the course of our lives contained within this universe. So, all possible worlds are contained within this one.

We can infer these, but how do we observe things that either didn't happen, or have not occurred yet? I'm not certain how one could prove this theory, but I'm certain some savvy experimentalists could figure it out if they accepted this interpretation.

We are an entity that manipulates probability, follows probable paths and we can "see" these worlds to some degree, but not in the way we can see the physical world. We can observe the dark worlds, we all do it.

Closure/Postscript

Every single idea in here is in some way rooted in madness and grief. I escape grief by thinking about something other than the thing I am actively trying not to think about. So I immerse myself completely, I think about these ideas when I go to sleep, think about them when I wake up. I can feel the mania coming upon me, and the worst part is I think I can stop it, but I can't. I do all these things because I want to escape. The world didn't make sense to me, none of the things I was being told about the universe made sense to me, and I needed to make sense of it. This is how I understand the world now, and I can't see it any other way.

I don't know why we are here, but I do know we are and I think we are here for a reason even I don't know what it is. There is a physical world, but it is only one part of the whole universe just as my physical body is only one part of myself. I don't know if there is a God, but I believe. I believe in love, what else do I have?

A vision for American cosmopolitanism. When I wrote my senior thesis for my undergrad it was called "What a Country This Could Have Been" and it outlined a possible path and the role white America and the modern colonial diaspora plays in a future vision of America. An America informed and embodying the best of both of our worlds.

Cultural change is the only change that can solve the issues we face. That will have many consequences for how we live, how we build and structure our governments and societies.

The soul is the foundation for building our nation.